

Application No. 10/070,707
Amendment Dated July 27, 2007
Reply to Office Action of March 27, 2007
and Advisory Action of December 19, 2006

REMARKS

The Office Action of March 27, 2007 has been carefully reviewed by applicant and the claims have herein been amended to more distinctly claim and point out the invention such as to distinguish the invention as claimed over the asserted prior art.

As of the Office Action of March 27, 2007, claims 19 and 23-32 are rejected under 35 U.S.C. §103(a) as being unpatentable over Swenson et al U.S. Patent No. 5,623,925 (herein after "Swenson") in view of Donehoo et al U.S. Patent No. 5,788,644 (herein after "Donehoo").

Additionally, claims 28 and 32 have been rejected under 35 U.S.C. §112, 1st paragraph as failing to comply with the written description requirement and 35 U.S.C. §103(a) as being unpatentable over Swenson and Donehoo in further view of Simon et al U.S. Patent No. 4,577,639 (herein after "Simon").

Claim 19

Independent claim 19 is rejected under 35 U.S.C. §103(a) as being unpatentable over Swenson in view of Donehoo.

Claim 19 has been amended to describe a particular arrangement of the electrodes of a common electrode set attached to a patient. Selected electrodes of the common set are attached in a manner that obtains up to 5 lead EKG signal data and at least one of the remaining additional electrodes of the common set are attached to the patient in a manner suitable for obtaining EEG signal data or IKG signal data. Thus, a plurality of different physiological signal data are simultaneously generated in the common electrode set. Thereafter, a selection switch is operated to select either the selected electrodes to obtain EKG signal data or the remaining additional electrodes to obtain EEG or IKG signal data.

The amendments made to claim 19 distinguish the claimed invention over the primary Swenson reference in that claim 19 as amended claims a common electrode set wherein a plurality different physiological signal data are simultaneously generated within the electrode set, the common electrode set being connected to a selection switch. The selection switch is operated to select those electrodes of the common electrode set from which the physiological signal data is to be obtained. This distinguishes over Swenson in that Swenson teaches

connecting an electrode set to a universal interface in a predetermined pattern as required by a selecting means. If the clinician desires to change the physiological data that is to be obtained by the electrode set, the clinician must remove the electrode connections from the universal interface and replace the electrode connections with a new configuration in the universal interface that coincides with the configuration indicated by the selecting means. While the same electrode set may be reused by the clinician to obtain the new physiological data, the connection between the electrode set and the universal interface must first be broken and then replaced in order to collect the new physiological data.

The system as described in Swenson was recognized by the inventor at the time of filing the application as indicated on page 3, lines 23-26 of the published application:

"On the other hand it is possible to change the conductors and electrodes between the measurement devices, but this is often complicated in an urgent operation."

Therefore, the present invention as claimed in claim 19 alleviates the recognized problem of a complicated procedure for switching the physiological data to be collected by an electrode set, as would be experienced in the implementation of the system as described by Swenson. The present invention as claimed in claim 19 overcomes this by allowing the clinician to change the physiological data that is obtained by merely operating a selection switch as opposed to disconnecting the electrodes from a universal interface and reconnecting the electrodes to the universal interface in an alternative predetermined configuration.

The method as recited in claim 19 "obtain[s] a plurality of different physiological signal data from a common electrode set." Upon the attachment of the electrodes of the common electrode set to the patient a plurality of different physiological and signal data is simultaneously generated in the common electrode set. The clinician operates the selection switch to select from the simultaneously generated physiological data in the common electrode set. Thus, the invention as claimed in claim 19 overcomes the recognized problem of the Swenson system and is sufficiently distinguished from said system.

Referring now to Donehoo, the disclosure of Donehoo does not overcome the insufficiencies of Swenson. The disclosure of Donehoo is limited to that of an ECG monitor and does not contemplate the collection of physiological data beside that of ECG. The system of Donehoo is thus limited by the other problem to which the invention as claimed in claim 19 is directed to resolve; that of eliminating separate monitoring devices for each physiological data quantity that is to be monitored.

As such, the combination of Swenson and Donehoo fail to render obvious the invention as claimed in amended claim 19 and applicant believes the claim to be in a condition for allowance. Such action is earnestly requested.

Claims 23-27

Method claims 23-27 depend directly or indirectly from claim 19 and are thus believed allowable for the reasons stated above, as well as for the detailed subject matter recited therein.

Claim 30

Apparatus claim 30 is also rejected under 35 U.S.C. §103(a) as being unpatentable over Swenson in view of Donehoo.

Claim 30 has been amended to describe an apparatus that includes a particular arrangement and interconnection between a common electrode set and a common measurement device. The common electrode set includes a first set for obtaining EKG signal data and a second electrode set for obtaining EEG or IKG signal data. All of the electrodes of the common electrode set are connected to the common measurement device through a selector switch. While a plurality of different physiological signals are collected from the patient through the common electrode set, the selector switch may be operated to select the first electrode set to obtain EKG signal data or the second electrode set to obtain EEG or IKG signal data. The selector switch directs the selected physiological data to the proper measuring equipment for the selected physiological data such that the desired physiological data may be obtained by the common measurement device.

The amendments made to claim 30 distinguish the claimed invention over the primary Swenson reference in that Swenson teaches connecting an electrode set to a universal

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interface in a predetermined pattern as required by a selecting means. If the clinician desires to change the physiological data that is to be obtained by the electrode set, the clinician must remove the electrode connections from the universal interface and replace the electrode connections with a new configuration in the universal interface that coincides with the configuration indicated by the selecting means. While the same electrode set may be reused by the clinician to obtain the new physiological data, the connection between the electrode set and the universal interface must first be broken and then replaced in order to collect the new physiological data.

The system as described in Swenson was recognized by the inventor at the time of filing the application as indicated on page 3, lines 23-26 of the application specification:

"On the other hand it is possible to change the conductors and electrodes between the measurement devices, but this is often complicated in an urgent operation."

Therefore, the present invention as claimed in claim 30 alleviates the recognized problem of a complicated universal interface for the manual selection of the physiological data to be collected by an electrode set. This complicated procedure is experienced by the system described in Swenson, but is alleviated by the implementation of the present invention as claimed in claim 30 as the clinician is able to select the physiological data that is obtained by the monitoring device by merely operating a selection switch as opposed to disconnecting the electrodes from a universal interface and reconnecting the electrodes to the universal interface in an alternative predetermined configuration.

Referring now to Donehoo, the disclosure of Donehoo does not overcome the insufficiencies of Swenson. The disclosure of Donehoo is limited to that of an ECG monitor and does not contemplate the collection of physiological data besides that of ECG. The system of Donehoo is thus limited by the other problem to which the invention as claimed in claim 19 is directed resolve; that of eliminating separate monitoring devices for each physiological data quantity that is to be monitored.

As such, the combination of Swenson and Donehoo fail to render obvious the invention as claimed in amended claim 30 and applicant believes the claim to be in a condition for allowance. Such action is earnestly requested.

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Claim 31

Claim 31 depends directly from claim 30 and is thus believed allowable for the reasons stated above, as well as for the detailed subject matter recited therein.

Claims 28 and 32

Claims 28 and 32 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Swenson in view of Donehoo in further view of Simon.

Claim 28 depends directly from independent claim 19 and claim 32 depends directly from claim 30. Thus, both claims 28 and 32 are dependent from independent claims believed allowable and are thus believed allowable for the reasons stated above as well as for the detailed subject matter recited therein.

Claim Rejections Under 35 U.S.C. §112

Claims 28 and 32 have further been rejected under 35 U.S.C. §112, 1st paragraph as failing to comply with the written description requirement for failing to disclose in the specification in a way such as to reasonably convey to one skilled in the art at the time the application was filed that the inventor had possession of the claimed invention. Claim 28 and 32 are a method and a system claim, respectively, that include: "ascertaining from the impedance relations the locations on the patient at which the additional remaining electrodes are attached."

Applicant directs the Examiner's attention to the disclosure in the patent application specification at page 5, lines 13-17:

"In one embodiment of the invention, based on the impedance relations of the electrodes, the configuration of the electrodes is estimated..."

The foregoing paragraph of the disclosure in the patent application reasonably conveys to one skilled in the art that the system and method may utilize the impedance relations of the electrodes to determine the placement configuration of the electrodes are placed, thus enabling a determination of the location of the electrodes on the patient.

As such, the patent specification adequately supports the invention as claimed in claims 28 and 32 and applicant respectfully requests that the rejection of these claims under §112 be removed by Examiner.

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Conclusion

The present application is thus believed in a condition for allowance with claims 19, 23-28, and 30-32. Such action is earnestly requested.

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